

ABSTRACT

The present invention provides a semiconductor nonvolatile memory in which writing or erasing of storing information can be carried out at a high speed with low consumption power and in which dispersion width of a threshold voltage after writing
5 or erasing is very narrow.

A channel region of a memory transistor is divided into two regions of a writing control region and a writing region. The writing control region and the writing region have different threshold voltages. Writing is only carried out in the writing region. The writing control region turns off when the amount of electric
10 charges accumulated in a floating gate reaches a specific value due to writing. The writing control region is used as a switch for a writing operation to automatically stop writing. Accordingly, an involatile memory comprising a memory transistor, in which writing can be carried out at a high speed with low consumption power and which is superior in controlling a threshold voltage after writing or erasing, can be
15 obtained.